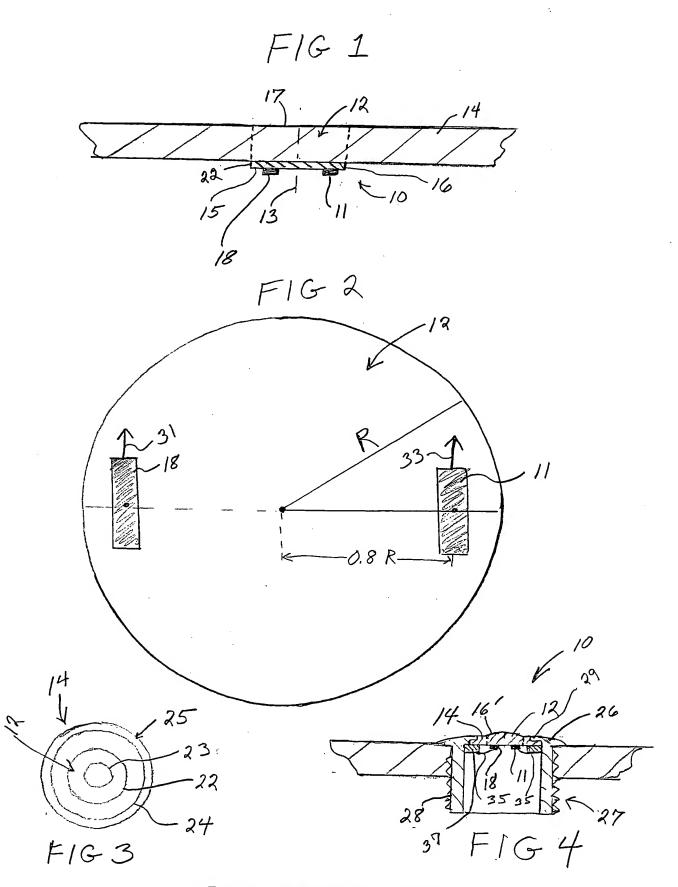
Inventor: Knowles, et al.
For: ACOUSTIC WAVE ICE AND WATER

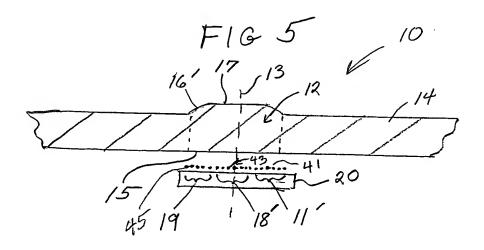
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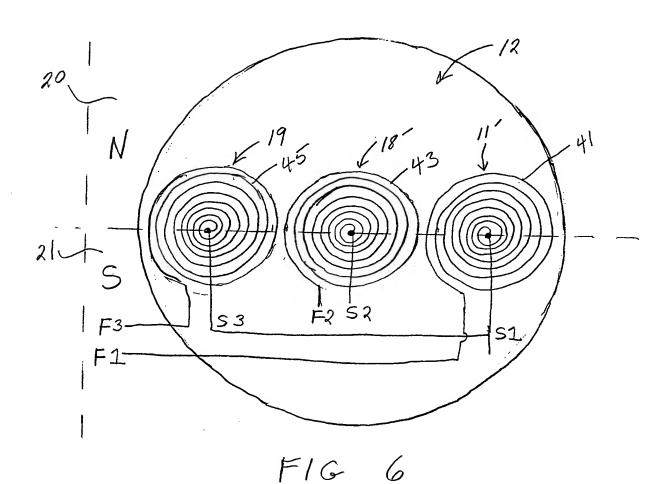


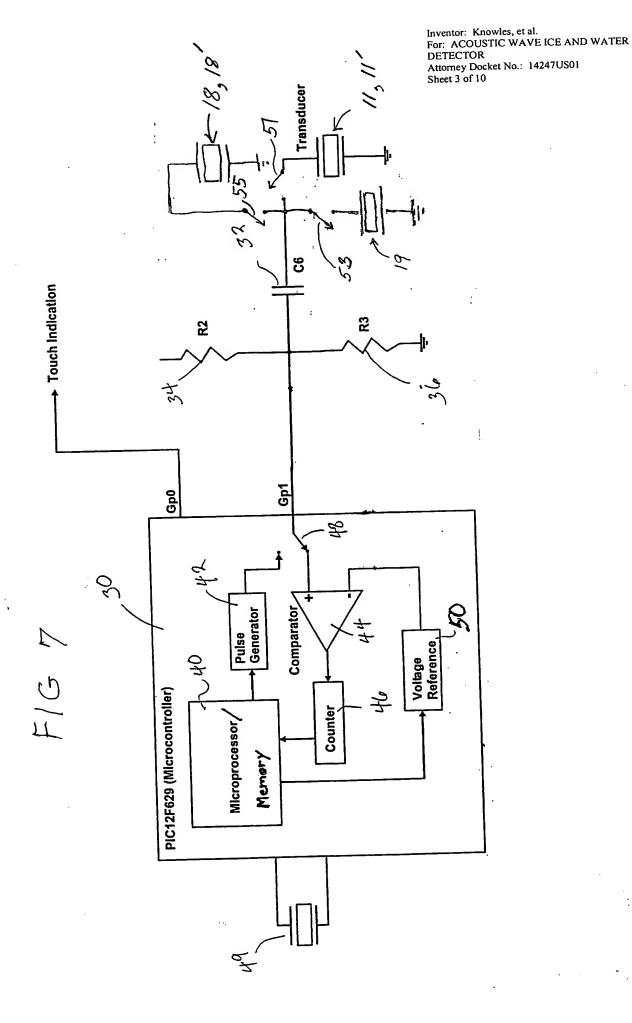
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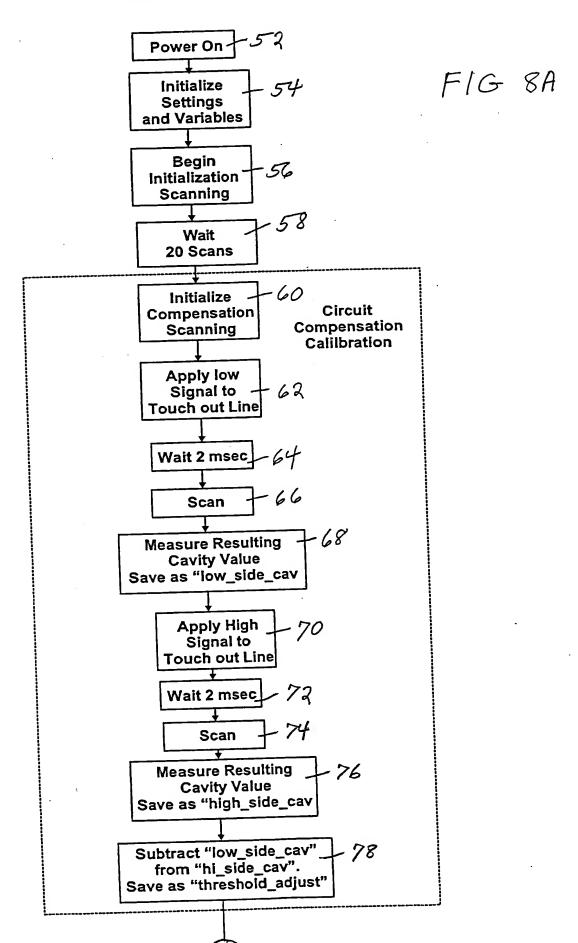
Inventor: Knowles, et al.

For: ACOUSTIC WAVE ICE AND WATER

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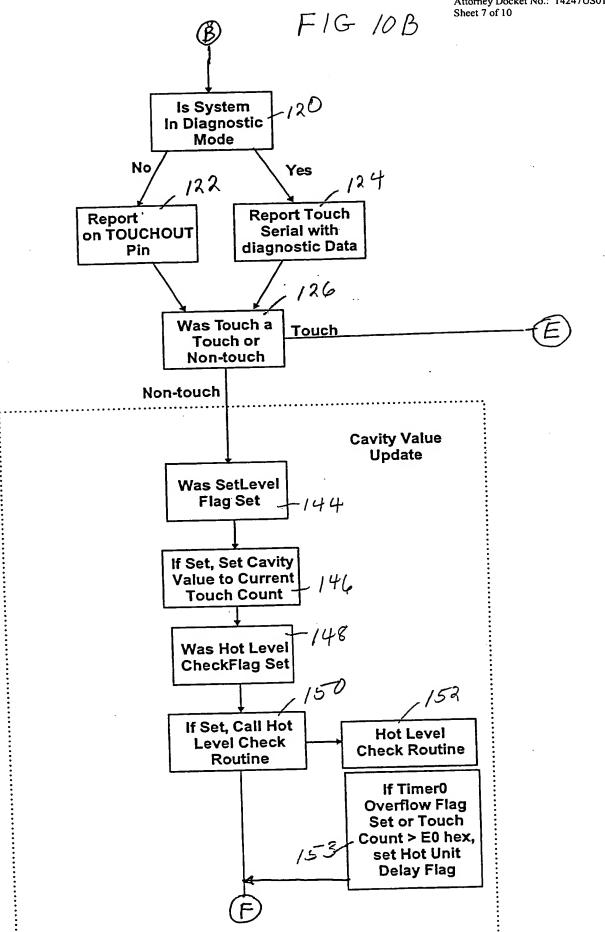
Inventor: Knowles, et al.
For: ACOUSTIC WAVE ICE AND WATER **DETECTOR** Attorney Docket No.: 14247US01 (B) Sheet 5 of 10 FIG 8B Wait 80 10 Scans Hot **Test for Very High** Level Signal Output Check - Possible Counter Overflow (Timer overflow or Signal > E0 Hex) 86 Set Delay Flag to Signal Level Ok Signal Count start Should be delayed to Compensate Wait 88 10 Scans **Set Cavity Value** to Current Touch COUNT Value 90 (Start Point) Start Standard Scanning 94 Process Splits at this Point to a Foreground Process and a Background Process. Background Process is driven off of a timer interrupt Foreground

Background

For: ACOUSTIC WAVE ICE AND WATER DETECTOR Attorney Docket No.: 14247US01 Sheet 6 of 10 FIG 10A FIG 9 Foreground Background **Process Process** 96 Save Count + 100 Monitor Value Request Request for not posted Recalibration Timer 0 98 Overflow? --102 Request posted Set Hot Level Check Flag Shutdown Normal Scanning Look at previous TOUCHOUT If = 1; add threshold_adjust 104 Circuit to threshold Compensation Calibration Is Touch Count (See Page 2) -106 Less than **Current Threshold** No Yes ,110 108 Set Set **TouchCurrent TouchCurrent** Flag to 1 Flag to 0 **Does TouchCurrent** 112 match previous TouchCurrent Value? Yes 116 Reset TouchCount Increment Set TouchLevel to Touch CURRENT **TouchCurrent** 118 Does TouchCurrent Match TouchHist No Yes

Inventor: Knowles, et al.

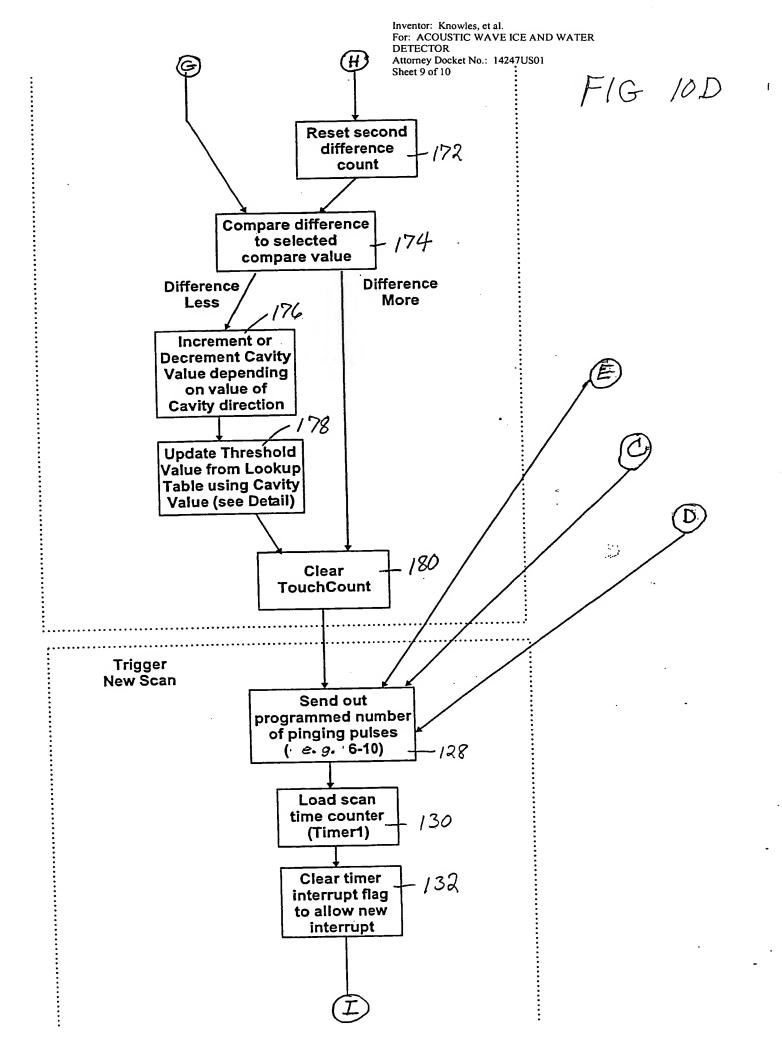
Inventor: Knowles, et al.
For: ACOUSTIC WAVE ICE AND WATER
DETECTOR
Attorney Docket No.: 14247US01



For: ACOUSTIC WAVE ICE AND WATER **DETECTOR** Attorney Docket No.: 14247US01 Sheet 8 of 10 COMPARE DIFFERENCE BETWEEN TOUCH COUNT LCAVITY VALUE TO HIGH DIFFERENCE VALUE If Touch Count minus Cavity Value exceeds predifined difference value; assume change in cavity value needed. Set Cavity Value to Current Touch -150 Value Compare 158 **Touch Count** to Cavity Value **Set Cavity** Direction Calculate the Difference Between Touch **Count and Cavity Value** Increment second difference count Look at second .166 difference Count to Determine which Compare difference to use Count equal Count less to second than second - 168 difference compare difference compare Set difference Set difference compare to compare to secondary level primary level

Inventor: Knowles, et al.

FIG 10C



Inventor: Knowles, et al.
For: ACOUSTIC WAVE ICE AND WATER
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Has ho
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No

Reset
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(TIME

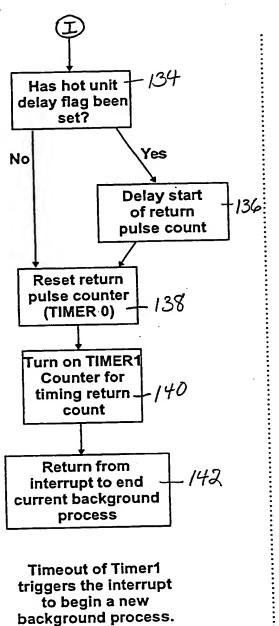


FIG 10E

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